

Computer Communications and Networks

Module Code:	COS5025-B
Academic Year:	2018-19
Credit Rating:	20
School:	Department of Computer Science
Subject Area:	Computer Science
FHEQ Level:	FHEQ Level 5
Module Leader:	Professor Irfan-Ullah Awan

Additional Tutors:
Professor Demetres Kouvatsos

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	24
Tutorials	12
Laboratory	12
Directed Study	152

Availability Periods

Occurrence	Location/Period
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Module Aims

1. To introduce concepts of data communication with computer networks at different levels and applications.
2. To develop skill in network design and performance evaluation skills.
3. To reinforce the background knowledge with practical experience of computer networks.

Outline Syllabus

(1) Internetworking and the Internet (2) Protocol Architecture (3) Network Topology (4) LAN and W-LAN (5) High Speed LANs (6) Data Transmission (7) Signal Encoding Techniques (8) Data Link Control (9): Multiple Access Protocols (10) Network Layer (11) Subnetting (12) Routing (13) Transport Layer (14) Application Layer (15) Security in Computer Networks

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Explain the function of data, signals and the different media used for data communication, signal encoding and multiplexing; data transmission with data link and transport protocols. Outline the common problems with transmission.

Explain typical computer network topologies and their components derived through the modelling and evaluating of their performance in software and laboratory network.
- 2 Develop, design, analyse and monitor communication networks.
- 3 Demonstrate analytical and problem solving skills.

Learning, Teaching and Assessment Strategy

A combination of lectures/tutorials/directed study. Concepts, principles & theories explored in formal lectures, practised & demonstrated in tutorials. Oral feedback is given during tutorials. Coursework will assess the application of practical skills to the knowledge base of the module using a combination of ITGuru, Java Programming and Wireshark labs. The examination will assess this and an understanding of the theoretical issues.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - practical/lab oratory	Cisco Packet Tracer based lab test	1 hour	30%	No
Summative	Examination - closed book	Examination - closed book	2 hours	70%	Yes
Referral	Examination - closed book	Examination - closed book	2 hours	100%	No

Legacy Code (if applicable)

Reading List

To view Reading List, please go to [rebus:list](#).